

Please replace page 38 of the specification with substitute page 38.

In the claims:

Please cancel claims 1-102.

Please add new claims 103-136 as follows:

-- 103. (New) A diagnostic imaging contrast agent having the formula:



wherein m is zero to four;

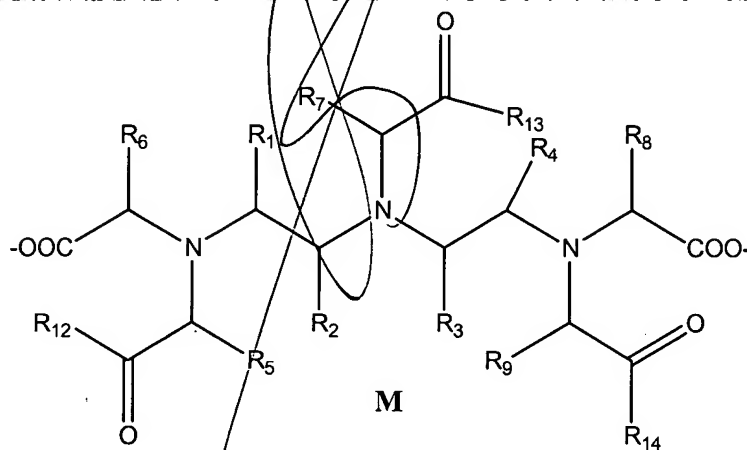
wherein s is one;

wherein o is one;

wherein p is one; and

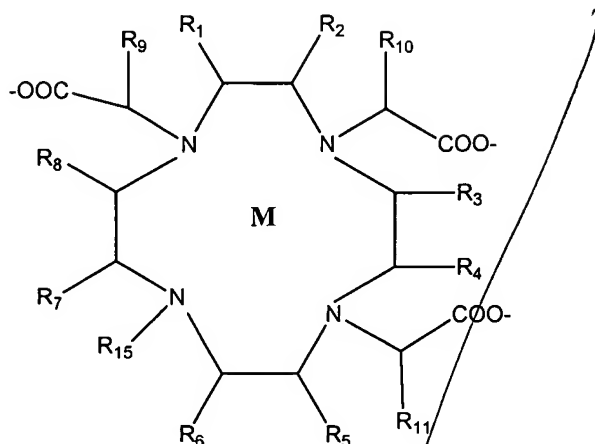
wherein q is at least one;

wherein **IEM** is an image enhancing moiety selected from the group consisting of:



and

A



wherein **M** is a metal ion or physiologically acceptable salt thereof and wherein the metal ion is selected from the group consisting of Gd(III), Fe(III), Mn(II), Mn(III), Cr(III), Cu(II), Dy(III), Tb(III), Ho(III), Er(III), and Eu(III);

wherein at least one of R_1 , R_{11} and R_{16} is $-[L_m-\{BHEM_s-PPBM_o\}_p]$ and the R_1 - R_{11} and R_{16} groups that are not $-[L_m-\{BHEM_s-PPBM_o\}_p]$ are hydrogen, PPBM, C_1 - C_6 alkyl, or combinations thereof;

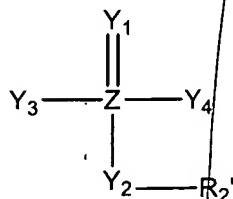
wherein R_{12} , R_{13} , and R_{14} can be the same or different and are selected from the group consisting of O and $N(H)R_{17}$;

wherein R_{15} is H, $CH_2CH(OH)CH_3$, hydroxy alkyl, or $CH(R_{16})COR_{12}$; and

wherein R_{17} is H or C_{1-6} alkyl;

wherein **L** is a linker;

wherein **BHEM** is a blood half-life extending moiety having the following structure:



wherein **Z** is P;

wherein Y_1 and Y_2 are independently O or S;

A

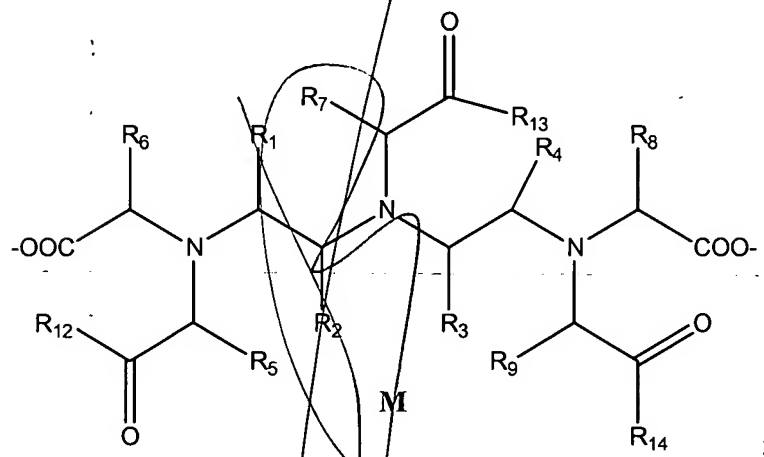
wherein Y₃ and Y₄ are independently O, S, or not present;

wherein R₂' is selected from the group consisting of H, C₁-C₆ alkyl, or not present; and

wherein each **PPBM** is a plasma protein binding moiety comprising at least 7 carbon atoms.

104. (New) The contrast agent of claim 103, wherein L is a linker containing 1 to 4 -CH₂- groups, wherein Y₃ is bound to the terminal carbon of L by a single bond and wherein Y₄ is bound by a single bond to PPBM.

105. (New) The contrast agent according to claim 103,
wherein the IEM has the following structure



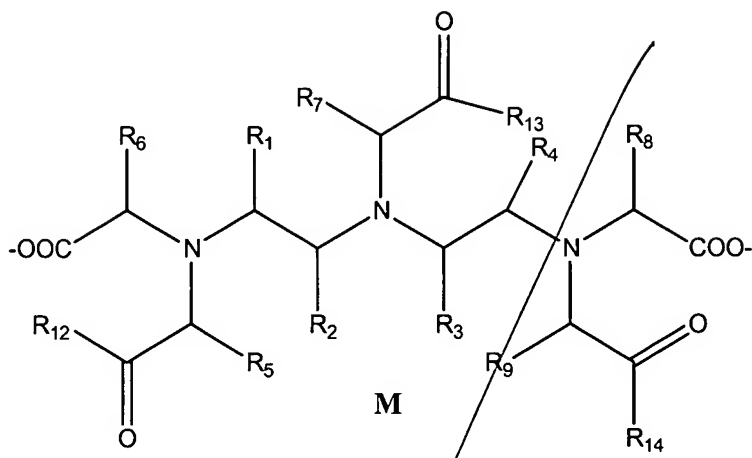
wherein R₁ is $-\{[L_m-\{BHEM_s-PPBM_o\}_p]$; R₂-R₉ are hydrogen;

and R_{12} , R_{13} , and R_{14} are O^- ;

wherein Y_1 and Y_2 are O; and Y_3 and Y_4 are O;

and wherein M is Gd^{3+} .

106. (New) The contrast agent according to claim 103,
wherein the IEM has the following structure



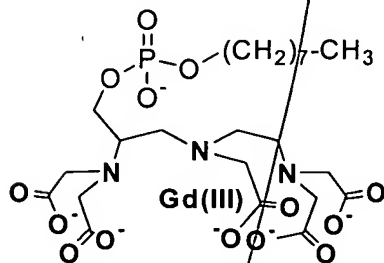
wherein R_2 is $-[L_m-\{BHEM_s-PPBM_0\}_p]$; R_1, R_3-R_9 are hydrogen;
 and R_{12}, R_{13} , and R_{14} are O^- ;
 wherein Y_1 and Y_2 are O ; and Y_3 and Y_4 are O ;
 and wherein M is Gd^{3+} .

107. (New) The contrast agent according to claim 105 or 106, wherein the PPBM comprises a linear alkyl chain of 7 or more carbon atoms.

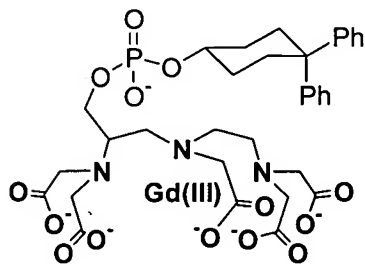
108. (New) The contrast agent according to claim 105 or 106, wherein the PPBM comprises a cycloalkyl ring of 5-8 carbon atoms.

109. (New) The contrast agent according to claim 105 or 106, wherein the PPBM comprises an aromatic ring.

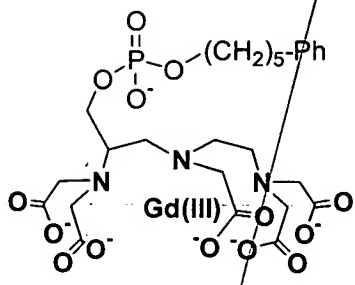
110. (New) The contrast agent according to claim 107 having the following structure:



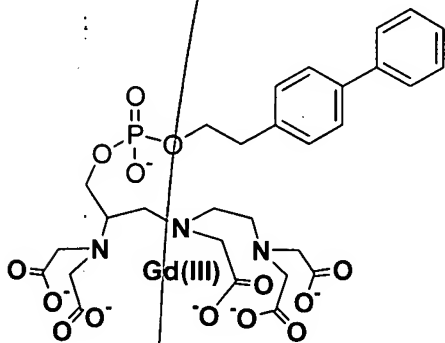
111. (New) The contrast agent according to claim 108 having the following structure:

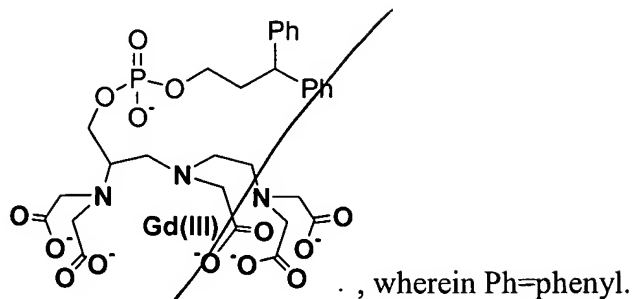


112. (New) The contrast agent according to claim 109 having the following structure:

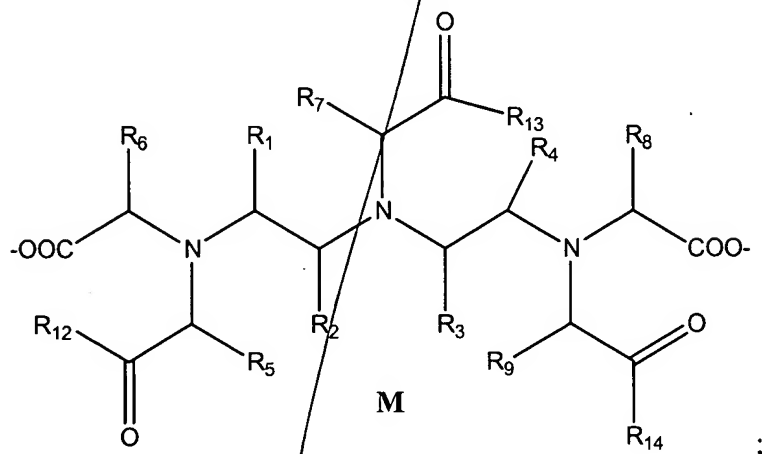


113. (New) The contrast agent according to claim 109 having the following structure:



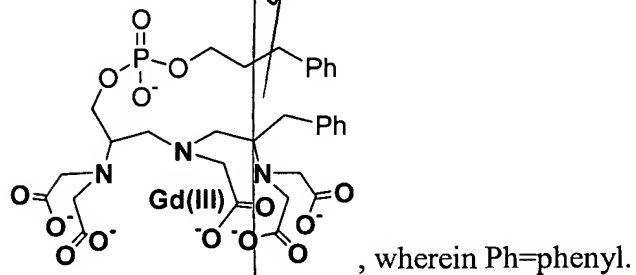


118. (New) The contrast agent according to claim 103,
wherein the IEM has the following formula



wherein R_1 is $[L_m - \{BHEM_s - PPBM_o\}_p]$; $R_2 - R_3$, $R_5 - R_9$ are hydrogen;
wherein R_4 is a 1 carbon $-CH_2-$ alkyl group bound to a phenyl PPBM;
wherein R_{12} , R_{13} , and R_{14} are O^- ;
wherein Y_1 and Y_2 are O, and Y_3 and Y_4 are O;
wherein M is Gd^{3+} ;

said contrast agent having the structure:



119. (New) A metal chelating ligand having the formula:



wherein m is zero to four;

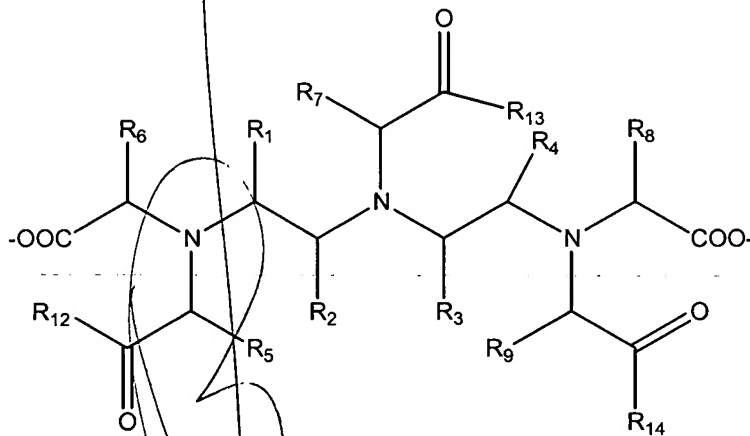
wherein s is one;

wherein o is one;

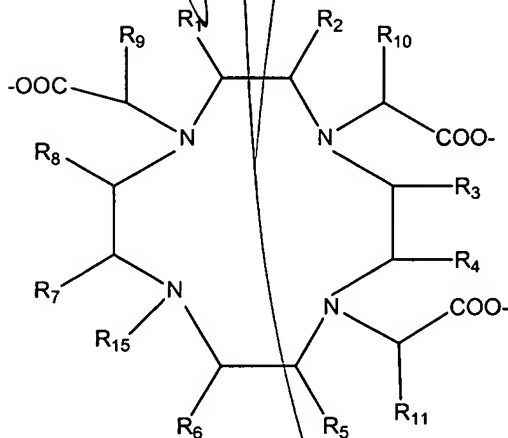
wherein p is one; and

wherein q is at least one;

wherein **IEM** is an image enhancing moiety chelating ligand selected from the group consisting of:



and



A

wherein at least one of R_1 - R_{11} and R_{16} is $-[L_m-\{BHEM_s-PPBM_o\}_p]$ and the R_1 - R_{11} and R_{16} groups that are not $-[L_m-\{BHEM_s-PPBM_o\}_p]$ are hydrogen, PPBM, C_1 - C_6 alkyl, or combinations thereof;

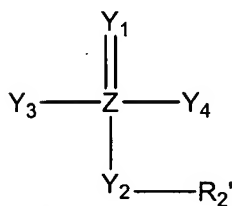
wherein R_{12} , R_{13} , and R_{14} can be the same or different and are selected from the group consisting of O^- and $N(H)R_{17}$;

wherein R_{15} is H, $CH_2CH(OH)CH_3$, hydroxy alkyl, or $CH(R_{16})COR_{12}$; and

wherein R_{17} is H or C_{1-6} alkyl;

wherein **L** is a linker;

wherein **BHEM** is a blood half-life extending moiety having the following structure:



wherein **Z** is **P**;

wherein Y_1 and Y_2 are independently O or S;

wherein Y_3 and Y_4 are independently O, S, or not present;

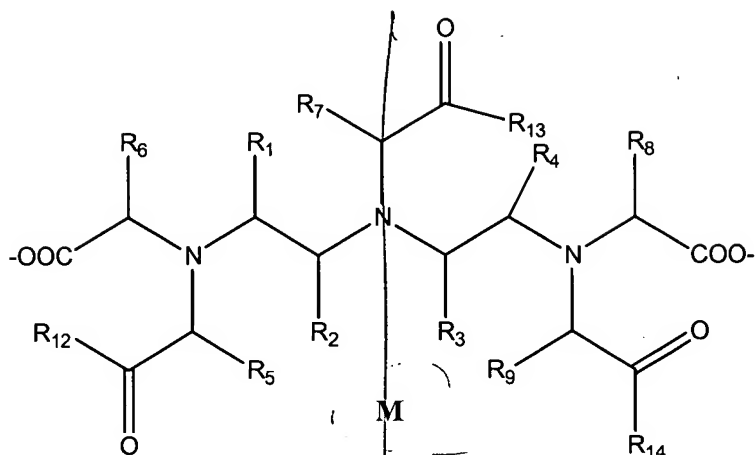
wherein R_2' is H, C_1 - C_6 alkyl, or not present; and

wherein each **PPBM** is a plasma protein binding moiety comprising at least 7 carbon atoms.

120. (New) The metal chelating ligand of claim 119, wherein **L** is a linker containing 1 to 4 $-CH_2-$ groups, wherein Y_3 is bound to the terminal carbon of **L** by a single bond and wherein Y_4 is bound by a single bond to PPBM.

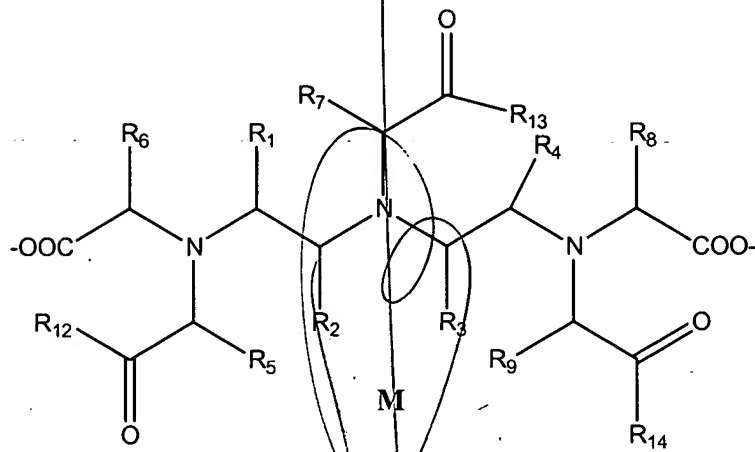
121. (New) The metal chelating ligand according to claim 119, wherein the IEM has the following structure

A



wherein R_1 is $-[L_m-\{BHEM_s-PPBM_o\}_p]$; R_2 - R_9 are hydrogen;
 and R_{12} , R_{13} , and R_{14} are O^- ;
 and wherein Y_1 and Y_2 are O ; and Y_3 and Y_4 are O .

122. (New) The metal chelating ligand according to claim 119,
 wherein the IEM has the following structure



wherein R_2 is $-[L_m-\{BHEM_s-PPBM_o\}_p]$; R_1 , R_3 - R_9 are hydrogen;
 and R_{12} , R_{13} , and R_{14} are O^- ;
 wherein Y_1 and Y_2 are O ; and Y_3 and Y_4 are O .

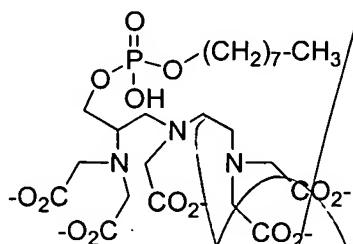
123. (New) The metal chelating ligand according to claim 121 or 122, wherein
 the PPBM comprises a linear alkyl chain of 7 or more carbon atoms.

A

124. (New) The metal chelating ligand according to claim 121 or 122, wherein the PPBM comprises a cycloalkyl ring of 5-8 carbon atoms.

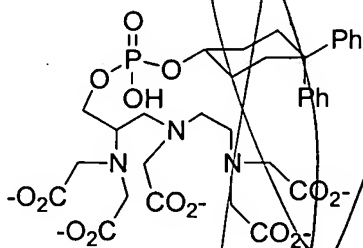
125. (New) The metal chelating ligand according to claim 121 or 122, wherein the PPBM comprises an aromatic ring.

126. (New) The metal chelating ligand according to claim 123, the metal chelating ligand having the following structure:



or acid or salt forms thereof.

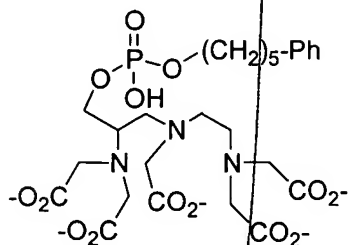
127. (New) The metal chelating ligand according to claim 124, the metal chelating ligand having the following structure:



, or acid or salt forms thereof, wherein

Ph=phenyl.

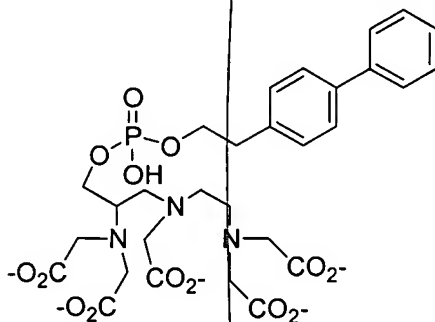
128. (New) The metal chelating ligand according to claim 125, the metal chelating ligand having the following structure:



or acid or salt forms thereof, wherein

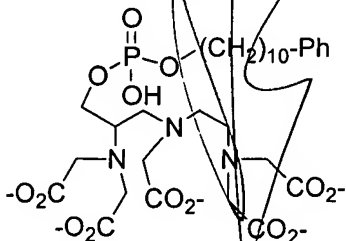
Ph=phenyl.

129. (New) The metal chelating ligand according to claim 125, the metal chelating ligand having the following structure:



or acid or salt forms thereof.

130. (New) The metal chelating ligand according to claim 125, the metal chelating ligand having the following structure:

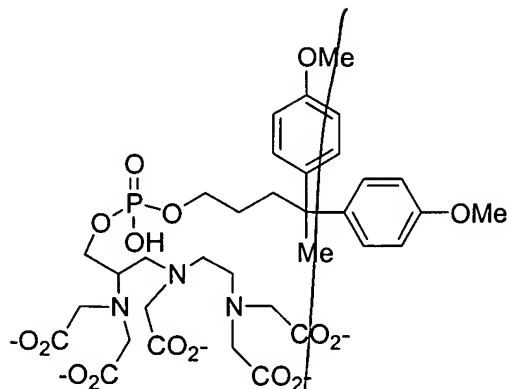


or acid or salt forms thereof, wherein

Ph=phenyl.

131. (New) The metal chelating ligand according to claim 125, the metal chelating ligand having the following structure:

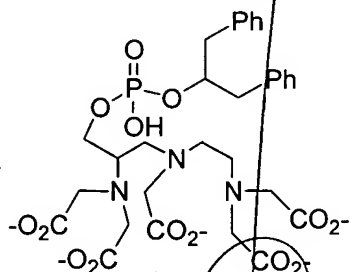
A



or acid or salt forms thereof,

wherein Me=methyl.

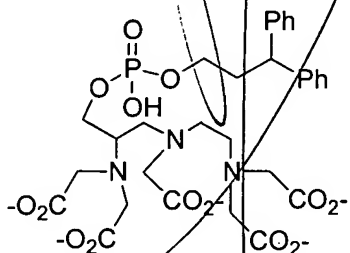
132. (New) The metal chelating ligand according to claim 125, the metal chelating ligand having the following structure:



or acid or salt forms thereof, wherein

Ph=phenyl.

133. (New) The metal chelating ligand according to claim 125, the metal chelating ligand having the following structure:

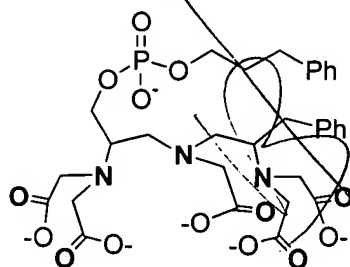


or acid or salt forms thereof, wherein

Ph=phenyl.

134. (New) The metal chelating ligand according to claim 119, the metal chelating ligand having the structure:

A



or acid or salt forms thereof, wherein Ph=phenyl.

135. (New) A pharmaceutical composition comprising a diagnostic imaging contrast agent according to claim 103 and a carrier, adjuvant, or vehicle.

136. (New) The pharmaceutical composition according to claim 135, further comprising a free organic ligand or a pharmaceutically acceptable salt thereof.